

Trying 3106016892...Open

Welcome to STN International! Enter x:x

LOGINID:sssptal636txb

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
NEWS 2 Sep 29 The Philippines Inventory of Chemicals and Chemical  
Substances (PICCS) has been added to CHEMLIST  
NEWS 3 Oct 27 New Extraction Code PAX now available in Derwent  
Files  
NEWS 4 Oct 27 SET ABBREVIATIONS and SET PLURALS extended in  
Derwent World Patents Index files  
NEWS 5 Oct 27 Patent Assignee Code Dictionary now available  
in Derwent Patent Files  
NEWS 6 Oct 27 Plasdac Key Serials Dictionary and Echoing added to  
Derwent Subscriber Files WPIDS and WPIX  
NEWS 7 Nov 29 Derwent announces further increase in updates for DWPI  
NEWS 8 Dec 5 French Multi-Disciplinary Database PASCAL Now on STN  
NEWS 9 Dec 5 Trademarks on STN - New DEMAS and EUMAS Files  
NEWS 10 Dec 15 2001 STN Pricing  
NEWS 11 Dec 17 Merged CEABA-VTB for chemical engineering and  
biotechnology  
NEWS 12 Dec 17 Corrosion Abstracts on STN  
NEWS 13 Dec 17 SYNTHLINE from Proust Science now available on STN  
NEWS 14 Dec 17 The CA Lexicon available in the CAPLUS and CA files  
NEWS 15 Jan 05 AIDSLINE is being removed from STN  
NEWS 16 Feb 06 Engineering Information Encompass files have new names  
NEWS 17 Feb 16 TOXLINE no longer being updated

NEWS EXPRESS FREE UPGRADE 5.0e FOR STN EXPRESS 5.0 WITH DISCOVER!  
(WINDOWS) NOW AVAILABLE

NEWS HOURS STN Operating Hours Plus Help Desk Availability

NEWS INTER General Internet Information

NEWS LOGIN Welcome Banner and News Items

NEWS PHONE Direct Dial and Telecommunication Network Access to STN

NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that  
specific topic.

All use of STN is subject to the provisions of the STN Customer  
agreement. Please note that this agreement limits use to scientific  
research. Use for software development or design or implementation  
of commercial gateways or other similar uses is prohibited and may  
result in loss of user privileges and other penalties.

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 15:55:19 ON 05 MAR 2001

=> file caplus, biosis, caba

COST IN U.S. DOLLARS

SINCE FILE TOTAL  
ENTRY SESSION

FILE 'CAPLUS' ENTERED AT 15:56:23 ON 05 MAR 2001  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2001 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'BIOSIS' ENTERED AT 15:56:23 ON 05 MAR 2001  
COPYRIGHT (C) 2001 BIOSIS(R)

FILE 'CABA' ENTERED AT 15:56:23 ON 05 MAR 2001  
COPYRIGHT (C) 2001 CAB INTERNATIONAL (CABI)

=> s nucleic acid

L1 90610 NUCLEIC ACID

=> s DNA

L2 1165642 DNA

=> s cation##

L3 424377 CATION##

=> s organic

L4 418987 ORGANIC

=> s particle

L5 511317 PARTICLE

=> s molecule

L6 153557 MOLECULE

=> s condens###

L7 154091 CONDENS###

=> compact###

COMPACT### IS NOT A RECOGNIZED COMMAND  
The previous command name entered was not recognized by the system.  
For a list of commands available to you in the current file, enter  
"HELP COMMANDS" at an arrow prompt (=>).

=> s compact###

L8 130201 COMPACT###

=> d his

(FILE 'HOME' ENTERED AT 15:55:19 ON 05 MAR 2001)

FILE 'CAPLUS, BIOSIS, CABA' ENTERED AT 15:56:23 ON 05 MAR 2001

L1 90610 S NUCLEIC ACID

L2 1165642 S DNA

L3 424377 S CATION##

L4 418987 S ORGANIC

L5 511317 S PARTICLE

L6 153557 S MOLECULE

L7 154091 S CONDENS###

L8 130201 S COMPACT###

=> s 14 and 13 and 15

L9 1254 L4 AND L3 AND 15

=> s 14 and 13 and 16

L10 195 L4 AND L3 AND L6

=> s 17 and 11

L11 363 L7 AND L1

=> s 18 and 11

L12 263 L8 AND L1

=> s 17 and 12

L13 4342 L7 AND L2

=> s 18 and 12

L14 3699 L8 AND L2

=> d his

(FILE 'HOME' ENTERED AT 15:55:19 ON 05 MAR 2001)

FILE 'CAPLUS, BIOSIS, CABA' ENTERED AT 15:56:23 ON 05 MAR 2001

L1 90610 S NUCLEIC ACID  
L2 1165642 S DNA  
L3 424377 S CATION##  
L4 418987 S ORGANIC  
L5 511317 S PARTICLE  
L6 153557 S MOLECULE  
L7 154091 S CONDENS###  
L8 130201 S COMPACT###  
L9 1254 S L4 AND L3 AND 15  
L10 195 S L4 AND L3 AND L6  
L11 363 S L7 AND L1  
L12 263 S L8 AND L1  
L13 4342 S L7 AND L2  
L14 3699 S L8 AND L2

=> s 12 with 19

MISSING OPERATOR L2 WITH

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s 12(w)19

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L5(W)L33'  
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L6(W)L34'  
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L7(W)L35'  
L15 6 L2(W) L9

=> d 115

L15 ANSWER 1 OF 6 PLUS COPYRIGHT 2001 ACS  
 AN 1990:455424 CAPLUS  
 DN 113:55424  
 TI Nucleic acid extraction method using **cationic** detergent in an **organic** solvent for preparation of nucleic acid for hybridization assay  
 IN Vermeulen, Nicolaas M. J.; Schwartz, Dennis E.  
 PA Microprobe Corp., USA  
 SO Eur. Pat. Appl., 13 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 338591	A2	19891025	EP 1989-107273	19890421
	EP 338591	A3	19910904		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	JP 02031696	A2	19900201	JP 1989-100361	19890421
	JP 2791367	B2	19980827		
PRAI	US 1988-184467		19880421		
OS	MARPAT 113:55424				

=> d 115 2-6

L15 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2001 ACS  
 AN 1968:464554 CAPLUS  
 DN 69:64554  
 TI Patterns of specificity in the interaction of **organic cations** with acid mucopolysaccharides  
 AU Scott, J. E.  
 CS Univ. of Alabama, Birmingham, Ala., USA  
 SO Chem. Physiol. Mucopolysaccharides, Proc. Symp., Milan (1968), Volume  
 Date 1965 219-31  
 CODEN: 20CLA9  
 DT Journal  
 LA English

L15 ANSWER 3 OF 6 BIOSIS COPYRIGHT 2001 BIOSIS  
 AN 2000:61768 BIOSIS  
 DN PREV200000061768  
 TI Genetic epidemiology of the carnitine transporter OCTN2 gene in a Japanese population and phenotypic characterization in Japanese pedigrees with primary systemic carnitine deficiency.  
 AU Koizumi, Akio (1); Nozaki, Jun-ichi; Ohura, Toshihiro; Kayo, Tsuyoshi; Wada, Yasuhiko; Nezu, Jun-ichi; Ohashi, Rikiya; Tamai, Ikumi; Shoji, Yutaka; Takada, Goro; Kibira, Satoshi; Matsuishi, Toyojiro; Tsuji, Akira  
 CS (1) Department of Hygiene, Akita University School of Medicine, Akita, 010-8543 Japan  
 SO Human Molecular Genetics, (Nov., 1999) Vol. 8, No. 12, pp. 2247-2254.  
 ISSN: 0964-6906.  
 DT Article  
 LA English  
 SL English

L15 ANSWER 4 OF 6 BIOSIS COPYRIGHT 2001 BIOSIS  
 AN 1996:420059 BIOSIS  
 DN PREV199699142415  
 TI Extraction of extracellular polymers from activated sludge using a **cation** exchange resin.

AU Frolund, Bo; Palmgren, Rikke; Keiding, Kristian; Nielsen, Per Halkjaer  
CS Environ. Eng. ., Aalborg Univ., Sohngaardsholmsvej 57, DK-9000 Aalborg  
Denmark  
SO Water Research, (1996) Vol. 30, No. 8, pp. 1749-1758.  
ISSN: 0043-1354.  
DT Article  
LA English

L15 ANSWER 5 OF 6 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 1995:461824 BIOSIS  
DN PREV199598476124  
TI Polyamine-mediated Conformational Perturbations in **DNA** Alter the  
Binding of estrogen Receptor to Poly(dG-m-5dC).poly(dG-m-5dC) and a  
Plasmid Containing the Estrogen Response Element.  
AU Thomas, Thresia (1); Gallo, Michael A.; Klinge, Carolyn M.; Thomas, T. J.  
CS (1) Program Clin. Pharmacol., Clin. Res. Cent., Univ. Med. Dent. New  
Jersey, Robert Wood Johnson Med. Sch., New Brunswick, NJ 08903 USA  
SO Journal of Steroid Biochemistry and Molecular Biology, (1995) Vol. 54,  
No. 3-4, pp. 89-99.  
ISSN: 0960-0760.  
DT Article  
LA English

L15 ANSWER 6 OF 6 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 1983:158038 BIOSIS  
DN BA75:8038  
TI CONDITIONS WHICH CAUSE RIGHT HANDED TO LEFT HANDED **DNA**  
CONFORMATIONAL TRANSITIONS EVIDENCE FOR SEVERAL TYPES OF LEFT HANDED  
**DNA** STRUCTURES IN SOLUTION.  
AU ZACHARIAS W; LARSON J E; KLYSIK J; WELLS R D; STIRDIVANT S M  
CS UNIV. OF WIS., DEP. OF BIOCHEMISTRY, COLL. OF AGRICULTURAL AND LIFE SCI.,  
MADISON, WIS. 53706.  
SO J BIOL CHEM, (1982) 257 (6), 2775-2782.  
CODEN: JBCHA3. ISSN: 0021-9258.  
FS BA; OLD  
LA English

=> d his

(FILE 'HOME' ENTERED AT 15:55:19 ON 05 MAR 2001)

FILE 'CAPLUS, BIOSIS, CABA' ENTERED AT 15:56:23 ON 05 MAR 2001

L1 90610 S NUCLEIC ACID  
L2 1165642 S DNA  
L3 424377 S CATION##  
L4 418987 S ORGANIC  
L5 511317 S PARTICLE  
L6 153557 S MOLECULE  
L7 154091 S CONDENS###  
L8 130201 S COMPACT###  
L9 1254 S L4 AND L3 AND 15  
L10 195 S L4 AND L3 AND L6  
L11 363 S L7 AND L1  
L12 263 S L8 AND L1  
L13 4342 S L7 AND L2  
L14 3699 S L8 AND L2  
L15 6 S L2(W)L9

=> 14(W)13

L4(W)L3 IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter  
"HELP COMMANDS" at arrow prompt (=>).

=> s 14(W)13

L16 2091 L4(W) L3

=> s 14(W)13(W)15

L17 0 L4(W) L3(W) L5

=> s 14(W)13(W)16

L18 0 L4(W) L3(W) L6

=> s 14 and 13 and 15

L19 399 L4 AND L3 AND L5

=> d his

(FILE 'HOME' ENTERED AT 15:55:19 ON 05 MAR 2001)

FILE 'CAPLUS, BIOSIS, CABA' ENTERED AT 15:56:23 ON 05 MAR 2001

L1 90610 S NUCLEIC ACID  
L2 1165642 S DNA  
L3 424377 S CATION##  
L4 418987 S ORGANIC  
L5 511317 S PARTICLE  
L6 153557 S MOLECULE  
L7 154091 S CONDENS###  
L8 130201 S COMPACT###  
L9 1254 S L4 AND L3 AND 15  
L10 195 S L4 AND L3 AND L6  
L11 363 S L7 AND L1  
L12 263 S L8 AND L1  
L13 4342 S L7 AND L2  
L14 3699 S L8 AND L2  
L15 6 S L2(W) L9  
L16 2091 S L4(W) L3  
L17 0 S L4(W) L3(W) L5  
L18 0 S L4(W) L3(W) L6  
L19 399 S L4 AND L3 AND L5

=> s 14 and 13 and 16

L20 195 L4 AND L3 AND L6

=> s 12(P)119

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L5(P)L73'  
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L6(P)L74'  
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L7(P)L75'  
L21 3 L2(P) L19

=> d 121 1-3

L21 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2001 ACS  
AN 1996:380861 CAPLUS  
DN 125:98085

TI Bacteria, colloids and **organic** carbon in groundwater at the  
Bangombe site at the Oklo area  
AU Pedersen, Karsten  
CS Lundberg Inst., Goeteborg Univ., Goeteborg, Swed.  
SO SKB Tech. Rep. (1996), 96-01, i-xv, 45 pp.  
CODEN: STRPEP; ISSN: 0284-3757  
DT Report  
LA English

L21 ANSWER 2 OF 3 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 1998:1140 BIOSIS  
DN PREV199800001140  
TI Electrophoresis gel media: The state of the art.  
AU Righetti, Pier Giorgio (1); Gelfi, Cecilia  
CS (1) L.I.T.A., Univ. Milano, Via Fratelli Cervi 93, 20090 Segrate, Milano  
Italy  
SO Journal of Chromatography B, (Oct. 10, 1997) Vol. 699, No. 1-2, pp.  
63-75.  
ISSN: 0378-4347.  
DT General Review  
LA English

L21 ANSWER 3 OF 3 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 1980:182772 BIOSIS  
DN BA69:57768  
TI CHROMATIN CONDENSATION POSSIBLE DEHYDRATING AND STABILIZING FACTORS.  
AU JERZMANOWSKI A; STARON K; TYNIEC-KROENKE B; TOCZKO K  
CS DEP. BIOCHEM., WARSAW UNIV., ZWIRKI I WIGURY 93, 02-089 WARSZAWA, POL.  
SO BIOCHIM BIOPHYS ACTA, (1979 (RECD 1980)) 565 (2), 356-364.  
CODEN: BBACAQ. ISSN: 0006-3002.  
FS BA; OLD  
LA English

=> d l21 abs ibib

L21 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2001 ACS  
AB This report describes how microorganisms, colloids and org. matter were  
sampled from groundwater in 1993 and 1994 from six boreholes at the  
Bangombe site in the Oklo region and subsequently analyzed. The Oklo  
region contains the only known examples of natural fission reactors and  
is therefore, perhaps, one of the best known natural analogs for the geol.  
disposal of radioactive waste. Among many different repository aspects  
that must be assessed are stability of the waste and the engineered  
barriers, behavior of the geol. system that hosts the repository, the  
potential migration of radionuclides in the geosphere as well as the  
influence of microorganisms, colloids, and org. matter on repository  
performance. For anal. of microorganisms, **DNA** was extd. from  
groundwater, amplified and cloned and information available in the  
ribosomal 16S rRNA gene was used for mapping diversity and distribution  
of bacteria. The results showed that this site was inhabited by a  
diversified population of bacteria. Each borehole was dominated by  
species that did not dominate in any of the other boreholes; a result  
that probably reflects documented differences in the geochem. environment.  
Two of the sequences obtained were identified on genus level to represent  
Acinetobacter and Zoogloea, but most of the 44 sequences found were only  
distantly related to species in the **DNA** database. The deepest  
borehole, BAX01 (105 m), had the highest no. of bacteria and also of  
total org. carbon (TOC). This borehole harbored only Proteobacteria beta group

sequences while sequences related to Proteobacteria beta, gamma and delta groups and Gram pos. bacteria were found in the other four boreholes.

Two

of the boreholes, BAX02 (34 m) and BAX04 (10 m) had many 16S rRNA gene sequences in common and they also had similar counts of bacteria, content of TOC, pH and equal cond., suggesting a hydraulic connection between them. The colloid sampling at Bangombe was conducted from four boreholes in July 1994 and the analyses comprised: colloids on membrane for SEM (SEM) anal., colloids on membrane for ICP-MS anal., and groundwater samples in bottles for single **particle** anal. The results from the investigations carried out by the 3 anal. procedures were consistent. The colloid concn. in these Na-Mg-Ca-HCO<sub>3</sub> type waters of pH 6-7 and slightly neg. Eh was rather low, about 20-100 ppb. This low colloid concn. was a consequence of relative concns. of calcium, magnesium and sodium in the water which reduce colloid concn. because these **cations** act as a colloid cement (aggregation, sticking) in the aquifer. Groundwater samples were collected for anal. of the concn. of org. carbon (TOC), humic substances and metals assocd. with the humic substances. Humic substances and assocd. metals were isolated on a weak anion exchange resin. TOC varied in the range 4-14 mg l<sup>-1</sup> in BAX01,

BAX02

and BAX03 whereas BAX04 had a TOC of <1.5 mg l<sup>-1</sup>. The result of the isolation procedure indicated that humic substances comprised only a

minor

fraction (<3%) of the TOC which is in agreement with results obtained in studies performed with groundwater from granitic bedrock where, however, the TOC in general is only a few mg/l.

ACCESSION NUMBER: 1996:380861 CAPLUS  
DOCUMENT NUMBER: 125:98085  
TITLE: Bacteria, colloids and **organic** carbon in groundwater at the Bangombe site in the Oklo area  
AUTHOR(S): Pedersen, Karsten  
CORPORATE SOURCE: Lundberg Inst., Goeteborg Univ., Goeteborg, Swed.  
SOURCE: SKB Tech. Rep. (1996), 96-01, i-xv, 45 pp.  
CODEN: STRPEP; ISSN: 0284-3757  
DOCUMENT TYPE: Report  
LANGUAGE: English

=> d 121 3 abs ibib

L21 ANSWER 3 OF 3 BIOSIS COPYRIGHT 2001 BIOSIS

AB The effects of Na<sup>+</sup>, Mg<sup>2+</sup>, spermidine and spermine on the dehydration of [eukaryotic] chromatin gel and precipitation of soluble chromatin were compared. Considerable differences were found in the relative ratios within the studied group (Na<sup>+</sup>, Mg<sup>2+</sup>, spermidine and spermine) between the ability to dehydrate (1:32:53:67) and to precipitate (1:53:800:2000) chromatin. The dependence of precipitation on initial chromatin concentration suggests that the observed effect as contributed considerably by interparticle aggregation is a relatively good measure of the ability of **cation** to stabilize higher order structures of chromatin through direct crosslinking or induction of hydrophobic associations at selected sites. In contrary to that the method estimating the direct dehydration measures the overall dehydrating effect of a **cation** exerted on the whole chromatin. The in vivo regulation of the degree of overall chromatin hydration should occur through changes in concentration of free small inorganic **cations**. Larger **organic** polycations like polyamines should be mainly involved in stabilization of the higher order chromatin structures. The stabilizing role of large polyanions like RNA has been ruled out. The unwinding of chromatin **DNA** results in considerable chromatin hydration.

ACCESSION NUMBER: 1980:182772 BIOSIS  
DOCUMENT NUMBER: BA69:57768  
TITLE: CHROMATIN CONDENSATION POSSIBLE DEHYDRATING AND STABILIZING



FACTORS.  
AUTHOR(S): RZMANOWSKI A; STARON K; TYNIEC DENKE B; TOCZKO K  
CORPORATE SOURCE: DEP. BIOCHEM., WARSAW UNIV., ZWIRKI I WIGURY 93, 02-089  
WARSAWA, POL.  
SOURCE: BIOCHIM BIOPHYS ACTA, (1979 (RECD 1980)) 565 (2),  
356-364.  
CODEN: BBACAQ. ISSN: 0006-3002.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English

=> d his

(FILE 'HOME' ENTERED AT 15:55:19 ON 05 MAR 2001)

FILE 'CAPLUS, BIOSIS, CABA' ENTERED AT 15:56:23 ON 05 MAR 2001

L1 90610 S NUCLEIC ACID  
L2 1165642 S DNA  
L3 424377 S CATION##  
L4 418987 S ORGANIC  
L5 511317 S PARTICLE  
L6 153557 S MOLECULE  
L7 154091 S CONDENS###  
L8 130201 S COMPACT###  
L9 1254 S L4 AND L3 AND 15  
L10 195 S L4 AND L3 AND L6  
L11 363 S L7 AND L1  
L12 263 S L8 AND L1  
L13 4342 S L7 AND L2  
L14 3699 S L8 AND L2  
L15 6 S L2(W)L9  
L16 2091 S L4(W)L3  
L17 0 S L4(W)L3(W)L5  
L18 0 S L4(W)L3(W)L6  
L19 399 S L4 AND L3 AND L5  
L20 195 S L4 AND L3 AND L6  
L21 3 S L2(P)L19

=> s 12 and 19

L22 6 L2 AND L9

=> s 12 and 119

L23 3 L2 AND L19

=> s 12 and 120

L24 7 L2 AND L20

=> d 124 1-7 abs ibib

L24 ANSWER 1 OF 7 BIOSIS COPYRIGHT 2001 BIOSIS

AB Atypical circular dichroism intensity enhancements previously associated with PSI-DNA condensates are reported for poly(dG-dC):poly(dG-dC) and poly(dA-dT):poly(dA-dT) upon addition to them of a polycationic string salt. Polycationic strings are **organic** species incorporating several **cationic** sites in a linear array through the **molecule**. The effect observed herein with a small **molecule** model system holds promise for elucidation of the structural details associated with PSI-DNA condensate formation.

ACCESSION NUMBER: 1999:226425 BIOSIS

DOCUMENT NUMBER: PREV199900226425  
TITLE: Polycations. 5. Inducement of PS-DNA circular dichroism signals for duplex deoxyribonucleotide homopolymers by polycationic strings.  
AUTHOR(S): Strekas, Thomas C. (1); Engel, Robert; Locknauth, Kishore; Cohen, JaimeLee; Fabian, Jeanne  
CORPORATE SOURCE: (1) Department of Chemistry and Biochemistry, Queens College of the City University of New York, Flushing, NY, 11367 USA  
SOURCE: Archives of Biochemistry and Biophysics, (April 1, 1999) Vol. 364, No. 1, pp. 129-131. ISSN: 0003-9861.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
SUMMARY LANGUAGE: English

L24 ANSWER 2 OF 7 BIOSIS COPYRIGHT 2001 BIOSIS

AB Processes of energy transduction were studied in isolated rat liver mitochondria, taken as a possible target for DNA-intercalators, which differs from a usual one, associated with nucleic acid metabolism reactions. In the mitochondrial suspension, changes in respiration rates and latent ATPase activity in controlled state were defined in addition to a decrease in respiratory control index ( $V-2/V-1$ ) and P/O ratio under the influence of DNA-intercalators, benzophenanthridine alkaloid sanguinarine and acridine derivative APhMA. Within the range of examined sanguinarine and APhMA concentrations, the increase in respiration rate and activation of latent ATPase activity of mitochondrial suspension was first determined, with the maxima of these activities at  $10^{-4}$  M for both the agents. A further increase in sanguinarine and APhMA concentrations caused the inhibition of these reactions. Such dose-dependent shapes, with a maximum for the curves of mitochondrial respiration rate and ATPase activity ("bell-shaped"), are typical for the majority of so far known uncouplers of oxidative phosphorylation in mitochondria. The fall of  $V-2/V-1$  and P/O, under the influence of sanguinarine and APhMA, evidenced for the inhibition of ATP synthesis in mitochondria. The mechanism of uncoupling by sanguinarine and APhMA was supposed to differ from that by protonophores. It has been suggested that the uncoupling of oxidative phosphorylation by sanguinarine and APhMA was associated with the ability of these organic cations to neutralize negative charges near the external side of energized Internal mitochondrial membranes. Correlation between the capacity for DNA intercalation and that for the energy transfer inhibition in mitochondria of these two agents is presumably based on the importance of positive charges and hydrophobic interactions, both for intercalation into polynucleotide double helices and for negative charges neutralization in energized mitochondrial membranes. Among DNA intercalators, so far examined, no agent has been established, which would not disturb the coupling of respiration and phosphorylation in mitochondria. However, there is no strong correlation for the agents between the ability to intercalate into DNA double helix and to disturb the energy transfer processes in mitochondria. Sanguinarine, which is more potent, as a DNA-intercalator, than APhMA, is weaker than APhMA as an uncoupler of mitochondrial oxidative phosphorylation. For DNA-intercalation, the steric conformity between sizes of the intercalator molecule and of DNA base pairs is of great importance. On the other hand, for mitochondrial energy transfer disturbance, the agent ability to achieve sites of negative charges in the energized inner membranes is more significant.

ACCESSION NUMBER: 1995:535528 BIOSIS  
DOCUMENT NUMBER: PREV199598549828  
TITLE: Disturbance of energy transduction in rat liver

mitochondria by sanguinarine and APHMA.  
AUTHOR(S): Alyaeva, T. N.; Faddeeva, M. D.  
CORPORATE SOURCE: Inst. Cytol., Russ. Acad. Sci., St. Petersburg Russia  
SOURCE: Tsitologiya, (1995) Vol. 37, No. 3, pp. 237-248.  
ISSN: 0041-3771.  
DOCUMENT TYPE: Article  
LANGUAGE: Russian  
SUMMARY LANGUAGE: Russian; English

L24 ANSWER 3 OF 7 BIOSIS COPYRIGHT 2001 BIOSIS

AB o-Phenanthroline (1,10-phenanthroline) is a chemical known to chelate iron

and other transition metal ions. This compound was added to solid yeast media to reduce the concentration of biologically available iron. Other essential divalent **cations**, like Zn<sup>2+</sup> or Cu<sup>2+</sup>, which could also be bound, were supplemented. Growth of wild-type yeast strains was totally inhibited at specific concentrations of the chelator. However, several cells containing plasmids of a multicopy vector genomic library of *S. cerevisiae* could be selected by growth on these media. All of the resistant clones carried a single additional gene, PAR1 on their multicopy plasmids. Plasmid-directed overexpression of PAR1 increased the resistance of transformants to o-phenanthroline and additionally conferred resistance to 1-nitroso-2-naphthol, an iron(III)-binding **molecule** with different coordinating ligands. By supplementing the o-phenanthroline-containing media with several different metal ions, it could be proved that the selection plates really caused a specific iron limitation. These observations clearly demonstrated that the overexpressed PAR1 gene enables the cell to compete with iron-chelating **organic** molecules. PAR1 null mutants, constructed by insertion of the LEU2 gene into the open reading frame, showed a remarkable phenotype: they did not grow on slightly alkaline buffered media (pH > 7) and became hypersensitive to oxidative stress by hydrogen peroxide. Of several heavy metal ions, such as Fe<sup>3+</sup>, Fe<sup>2+</sup>, Co<sup>2+</sup>, Ni<sup>2+</sup>, Cu<sup>2+</sup> and Zn<sup>2+</sup>, tested for supplementation of the alkaline growth deficiency, only iron, either added in the ferrous or ferric form, was able to restore cellular growth. It can be concluded from the **DNA** sequence that PAR1 encodes a highly acidic protein of 650 residues with mostly hydrophilic character. Some interesting repetitive amino acid motifs, such as (Asp-Asn)<sub>4</sub> or Cys-Ser-Glu, may act as metal-binding sites. The possible role of PAR1 is discussed.

ACCESSION NUMBER: 1991:501383 BIOSIS  
DOCUMENT NUMBER: BA92:124343  
TITLE: IDENTIFICATION AND CHARACTERIZATION OF A  
SACCHAROMYCES-CEREVISIAE GENE PAR1 CONFERRING RESISTANCE  
TO  
IRON CHELATORS.  
AUTHOR(S): SCHNELL N; ENTIAN K-D  
CORPORATE SOURCE: INSTITUT FUER MIKROBIOLOGIE DER JOHANN WOLFGANG  
GOETHE-UNIVERSITAET FRANKFURT, THEODOR-STERN-KAI 7, HAUS  
75A, W-6000 FRANKFURT/M, GERMANY.  
SOURCE: EUR J BIOCHEM, (1991) 200 (2), 487-494.  
CODEN: EJBCAI. ISSN: 0014-2956.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English

L24 ANSWER 4 OF 7 BIOSIS COPYRIGHT 2001 BIOSIS

AB Putrescine, spermidine, and spermine are a group of small **organic cations**, collectively known as polyamines. They are present in all living cells, and their levels are generally increased in tumor cells.

Progestosterone receptor is a gene-regulatory protein that plays a major role in gestation and in hormonal responsiveness of breast cancer. We studied the effects of putrescine, spermidine, 2 lower homologues of spermidine, N1- and N1-acetylspermidines, spermine, and N1-acetylspermine on the sedimentation profile and **DNA** binding of progesterone receptor from rabbit uterus. Progesterone receptor, prepared in hypotonic buffer, sedimented at the 7S region of sucrose gradients. In the presence of 1 mM putrescine, a part of the receptor was converted to a 5S form. In the presence of 1 mM spermidine or 0.25 mM spermine, the receptor was completely transformed to the 5S form. The **DNA** binding of the 7S form of progesterone receptor was 7 .+-. 3%. After incubating this receptor with 1 mM putrescine, 1 mM spermidine, or 0.25 mM spermine, its **DNA** binding increased to 16 .+-. 4, 37 .+-. 3, and 44 .+-. 5%, respectively. The structural specificity of polyamines in facilitating the

**DNA** binding of progesterone receptor was examined by using two spermidine homologues. The first homologue with one methylene group less than that of spermidine was as effective as spermidine in transforming progesterone receptor. Removal of two methylene groups, however, had a dramatic effect in reducing the efficacy of the resulting **molecule** to the level of putrescine. Taken together, our results show that natural polyamines are capable of modulating the binding of progesterone receptor to **DNA**. Since progesterone receptor is associated with the hormonal responsiveness of human breast cancer, polyamine levels in tumor cells might play an important role in the gene-regulatory function of progesterone receptor.

ACCESSION NUMBER: 1988:204684 BIOSIS

DOCUMENT NUMBER: BA85:106030

TITLE: MODULATION OF THE BINDING OF PROGESTERONE RECEPTOR TO **DNA** BY POLYAMINES.

AUTHOR(S): THOMAS T; KIANG D T

CORPORATE SOURCE: UNIV. MINN., DIV. MED. ONCOL., BOX 168, UMHC, 420 DELAWARE ST. S.E., MINNEAPOLIS, MINN. 55455.

SOURCE: CANCER RES, (1988) 48 (5), 1217-1222.

CODEN: CNREA8. ISSN: 0008-5472.

FILE SEGMENT: BA; OLD

LANGUAGE: English

L24 ANSWER 5 OF 7 BIOSIS COPYRIGHT 2001 BIOSIS

AB The binding of 2 diamino steroids, irehdiamine A and dihydroirehdiamine A,

to double-stranded **DNA** [calf thymus] was studied in the presence of various NaCl concentrations up to 0.20 M. The binding is reversible as shown by complete dissociation of the complex observed upon addition of mineral or **organic cations**. The binding equilibrium was studied by preparative ultracentrifugation and parameters relative to the stabilized complex were determined. The binding constant of irehdiamine A decreases as a function of the salt concentration according to the equation:  $\log K = 2.19 - 1.49 \log [\text{NaCl}]$ . The binding constant of dihydroirehdiamine A is slight smaller than that of irehdiamine A.

Entropy

is the predominant component of the free-energy change of the reaction. The **DNA**-steroid binding constants were measured by analysis of the competition between ethidium and steroids for **DNA** binding. Steroid-induced alterations of the **DNA** UV absorption spectrum were studied: steroids cause a maximum hyperchromicity at 260 nm of the **DNA** of about 18%. Especially at higher ionic strengths, the hyperchromicity is not a linear function of the amount of bound steroid but appears to be induced cooperatively. The superhelical turns of the closed circular **DNA molecule** of phage PM2 are removed for a bound steroid/phosphate ratio of 0.17 in a solvent containing 0.05

M

NaCl. This unwinding is presumably due to the opening of 7% of the **DNA** base pairs. Evidence for opening of the **DNA** base

pairs is provided by measurement of the rate of reaction of the bases with formaldehyde in the presence of irehdiamine A. Fast reannealing of the **DNA** denatured in the presence of steroid at high concentration was observed, which suggests the existence of cross-links between the 2 **DNA** strands. The stabilizing site of binding apparently lies in the **DNA** minor groove.

ACCESSION NUMBER: 1978:173707 BIOSIS  
DOCUMENT NUMBER: BA65:60707  
TITLE: PHYSICOCHEMICAL STUDIES ON THE INTERACTION OF IREHDIAMINE A  
WITH BI HELICAL **DNA**.  
AUTHOR(S): SAUCIER J-M  
CORPORATE SOURCE: LAB. PHARMACOL. MOL., INST. GUSTAVE ROUSSY, 94800 VILLEJUIF, FR.  
SOURCE: BIOCHEMISTRY, (1977 (RECD 1978)) 16 (26), 5879-5889.  
CODEN: BICHAW. ISSN: 0006-2960.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English

L24 ANSWER 6 OF 7 BIOSIS COPYRIGHT 2001 BIOSIS

AB The polyamines influence the activity of many enzymes involved in the synthesis and degradation of RNA. These **organic cations** (putrescine, spermidine, spermine) stimulated, for example, many **DNA**-dependent RNA polymerases and affected both RNA chain elongation and initiation. The polyamines also bound to polynucleotides, forming complexes having, in many cases, physical properties quite distinct from the parent polymer. Some of these complexes were resistant to RNase mediated hydrolysis. Polyamines altered the activity, as well as the specificity of some RNases, so the actual rate of breakdown of RNA

was

dependent on the interaction of polyamine with both RNA and enzyme. The hydrolytic rate might also be controlled by the presence of purine homopolymer, which acted to strongly inhibit RNase activity. The addition of polyadenylic acid tracts to the 3' terminus of the RNA substrate, for example, protected the unpolyadenylated portion of the RNA **molecule** from degradation. Longer segments of poly(A) were more effective in this respect; however, regardless of poly(A) length, low concentrations of spermidine reversed the inhibition of RNase activity, with concomitant rapid degradation of the unpolyadenylated portion of the RNA **molecule**. RNA degradation depended not only on the presence of RNase, but on poly(A) length and spermidine concentration as well. Although the relative importance, within the cell, of each of these interactions was not known, the above mechanisms illustrated certain of the complexities and interrelations that might exist for the synthesis and, in particular, the RNase mediated degradation of RNA.

ACCESSION NUMBER: 1978:146085 BIOSIS  
DOCUMENT NUMBER: BA65:33085  
TITLE: POLY AMINES RNASE AND THE STABILITY OF RNA.  
AUTHOR(S): KARPETSKY T P; HIETER P A; FRANK J J; LEVY C C  
CORPORATE SOURCE: ENZYMOL. DRUG METABOL. SECT., LAB. MOL. BIOL., BALTIMORE CANCER RES. CENT., NATL. HEART LUNG BLOOD INST.,  
BALTIMORE,  
MD. 21211, USA.  
SOURCE: MOL CELL BIOCHEM, (1977) 17 (2), 89-100.  
CODEN: MCBIB8. ISSN: 0300-8177.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English

L24 ANSWER 7 OF 7 CABA COPYRIGHT 2001 CABI

AB The nature of **DNA** adsorption on mica, silylated mica, calcite, fluorite, and barite was investigated using atomic force microscopy. Adsorption was improved by the presence of **cations**, either in solution or accessible to the **DNA molecule**. Buffer composition was shown to have only a minor impact on the adsorption of

DNA to silylated mica. It was concluded that DNA adsorption was electrostatic in nature.

ACCESSION NUMBER: 95:180095 CABA  
DOCUMENT NUMBER: 951909834  
TITLE: Adsorption of DNA to mica, silylated mica, and minerals: characterization by atomic force microscopy  
AUTHOR: Bezanilla, M.; Manne, S.; Laney, D. E.; Lyubchenko, Y. L.; Hansma, H. G.  
CORPORATE SOURCE: Department of Physics, University of California, Santa Barbara, CA 93106, USA.  
SOURCE: Langmuir, (1995) Vol. 11, No. 2, pp. 655-659. 25 ref.  
ISSN: 0743-7463  
DOCUMENT TYPE: Journal  
LANGUAGE: English

=> d his

(FILE 'HOME' ENTERED AT 15:55:19 ON 05 MAR 2001)

FILE 'CAPLUS, BIOSIS, CABA' ENTERED AT 15:56:23 ON 05 MAR 2001

L1 90610 S NUCLEIC ACID  
L2 1165642 S DNA  
L3 424377 S CATION##  
L4 418987 S ORGANIC  
L5 511317 S PARTICLE  
L6 153557 S MOLECULE  
L7 154091 S CONDENS###  
L8 130201 S COMPACT###  
L9 1254 S L4 AND L3 AND L5  
L10 195 S L4 AND L3 AND L6  
L11 363 S L7 AND L1  
L12 263 S L8 AND L1  
L13 4342 S L7 AND L2  
L14 3699 S L8 AND L2  
L15 6 S L2(W)L9  
L16 2091 S L4(W)L3  
L17 0 S L4(W)L3(W)L5  
L18 0 S L4(W)L3(W)L6  
L19 399 S L4 AND L3 AND L5  
L20 195 S L4 AND L3 AND L6  
L21 3 S L2(P)L19  
L22 6 S L2 AND L9  
L23 3 S L2 AND L19  
L24 7 S L2 AND L20

=> s 17 and 12 and 119

L25 0 L7 AND L2 AND L19

=> s 17 and 12 and 120

L26 1 L7 AND L2 AND L20

=> s 18 and 12 and 120

L27 0 L8 AND L2 AND L20

=> s 18 and 12 and 119

L28 0 L8 AND L2 AND L19

=> d 126 abs ibib

L26 ANSWER 1 OF 1 BIOSIS COPYRIGHT 2001 BIOSIS  
AB Atypical circular dichroism intensity enhancements previously associated with PSI-DNA condensates are reported for poly(dG-dC):poly(dG-dC) and poly(dA-dT):poly(dA-dT) upon addition to them of a polycationic string salt. Polycationic strings are **organic** species incorporating several **cationic** sites in a linear array through the **molecule**. The effect observed herein with a small **molecule** model system holds promise for elucidation of the structural details associated with PSI-DNA condensate formation.

ACCESSION NUMBER: 1999:226425 BIOSIS  
DOCUMENT NUMBER: PREV199900226425  
TITLE: Polycations. 5. Inducement of PSI-DNA circular dichroism signals for duplex deoxyribonucleotide homopolymers by polycationic strings.  
AUTHOR(S): Strekas, Thomas C. (1); Engel, Robert; Locknauth, Kishore; Cohen, JaimeLee; Fabian, Jeanne  
CORPORATE SOURCE: (1) Department of Chemistry and Biochemistry, Queens College of the City University of New York, Flushing, NY, 11367 USA  
SOURCE: Archives of Biochemistry and Biophysics, (April 1, 1999) Vol. 364, No. 1, pp. 129-131. ISSN: 0003-9861.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
SUMMARY LANGUAGE: English

=> d his

(FILE 'HOME' ENTERED AT 15:55:19 ON 05 MAR 2001)

FILE 'CAPLUS, BIOSIS, CABA' ENTERED AT 15:56:23 ON 05 MAR 2001

L1 90610 S NUCLEIC ACID  
L2 1165642 S DNA  
L3 424377 S CATION##  
L4 418987 S ORGANIC  
L5 511317 S PARTICLE  
L6 153557 S MOLECULE  
L7 154091 S CONDENS###  
L8 130201 S COMPACT###  
L9 1254 S L4 AND L3 AND 15  
L10 195 S L4 AND L3 AND L6  
L11 363 S L7 AND L1  
L12 263 S L8 AND L1  
L13 4342 S L7 AND L2  
L14 3699 S L8 AND L2  
L15 6 S L2(W)L9  
L16 2091 S L4(W)L3  
L17 0 S L4(W)L3(W)L5  
L18 0 S L4(W)L3(W)L6  
L19 399 S L4 AND L3 AND L5  
L20 195 S L4 AND L3 AND L6  
L21 3 S L2(P)L19  
L22 6 S L2 AND L9  
L23 3 S L2 AND L19  
L24 7 S L2 AND L20  
L25 0 S L7 AND L2 AND L19  
L26 1 S L7 AND L2 AND L20  
L27 0 S L8 AND L2 AND L20  
L28 0 S L8 AND L2 AND L19

=> s 11 and 119

L29 0 L1 AND L19

=> s 11 and 120

L30 1 L1 AND L20

=> s 17 and 11 and 119

L31 0 L7 AND L1 AND L19

=> s 17 and 11 and 120

L32 0 L7 AND L1 AND L20

=> s 18 and 11 and 120

L33 0 L8 AND L1 AND L20

=> s 18 and 11 and 119

L34 0 L8 AND L1 AND L19

=> d 130 abs ibib

L30 ANSWER 1 OF 1 BIOSIS COPYRIGHT 2001 BIOSIS

AB Processes of energy transduction were studied in isolated rat liver mitochondria, taken as a possible target for DNA-intercalators, which differs from a usual one, associated with **nucleic acid** metabolism reactions. In the mitochondrial suspension, changes in respiration rates and latent ATPase activity in controlled state were defined in addition to a decrease in respiratory control index ( $V-2/V-1$ ) and P/O ratio under the influence of DNA-intercalators, benzophenanthridine alkaloid sanguinarine and acridine derivative APhMA. Within the range of examined sanguinarine and APhMA concentrations, the increase in respiration rate and activation of latent ATPase activity of mitochondrial suspension was first determined, with the maxima of these activities at  $10^{-4}$  M for both the agents. A further increase in sanguinarine and APhMA concentrations caused the inhibition of these reactions. Such dose-dependent shapes, with a maximum for the curves of mitochondrial respiration rate and ATPase activity ("bell-shaped"), are typical for the majority of so far known uncouplers of oxidative phosphorylation in mitochondria. The fall of  $V-2/V-1$  and P/O, under the influence of sanguinarine and APhMA, evidenced for the inhibition of ATP synthesis in mitochondria. The mechanism of uncoupling by sanguinarine

and

APhMA was supposed to differ from that by protonophores. It has been suggested that the uncoupling of oxidative phosphorylation by

sanguinarine

and APhMA was associated with the ability of these **organic cations** to neutralize negative charges near the external side of energized Internal mitochondrial membranes. Correlation between the capacity for DNA intercalation and that for the energy transfer

inhibition

in mitochondria of these two agents is presumably based on the importance of positive charges and hydrophobic interactions, both for intercalation into polynucleotide double helices and for negative charges

neutralization

in energized mitochondrial membranes. Among DNA intercalators, so far examined, no agent has been established, which would not disturb the coupling of respiration and phosphorylation in mitochondria. However, there is no strong correlation for the agents between the ability to



intercalate into DNA double helix and to disturb the energy transfer processes in mitochondria. Sanguinarine, which is more potent, as a DNA-intercalator, than APhMA, is weaker than APhMA as an uncoupler of mitochondrial oxidative phosphorylation. For DNA intercalation, the steric conformity between sizes of the intercalator molecule and of DNA base pairs is of great importance. On the other hand, for mitochondrial energy transfer disturbance, the agent ability to achieve sites of negative charges in the energized inner membranes is more significant.

ACCESSION NUMBER: 1995:535528 BIOSIS  
DOCUMENT NUMBER: PREV199598549828  
TITLE: Disturbance of energy transduction in rat liver mitochondria by sanguinarine and APhMA.  
AUTHOR(S): Belyaeva, T. N.; Faddeeva, M. D.  
CORPORATE SOURCE: Inst. Cytol., Russ. Acad. Sci., St. Petersburg Russia  
SOURCE: Tsitologiya, (1995) Vol. 37, No. 3, pp. 237-248.  
ISSN: 0041-3771.  
DOCUMENT TYPE: Article  
LANGUAGE: Russian  
SUMMARY LANGUAGE: Russian; English

=> d his

(FILE 'HOME' ENTERED AT 15:55:19 ON 05 MAR 2001)

FILE 'CAPLUS, BIOSIS, CABA' ENTERED AT 15:56:23 ON 05 MAR 2001

L1 90610 S NUCLEIC ACID  
L2 1165642 S DNA  
L3 424377 S CATION##  
L4 418987 S ORGANIC  
L5 511317 S PARTICLE  
L6 153557 S MOLECULE  
L7 154091 S CONDENS###  
L8 130201 S COMPACT###  
L9 1254 S L4 AND L3 AND L5  
L10 195 S L4 AND L3 AND L6  
L11 363 S L7 AND L1  
L12 263 S L8 AND L1  
L13 4342 S L7 AND L2  
L14 3699 S L8 AND L2  
L15 6 S L2 (W) L9  
L16 2091 S L4 (W) L3  
L17 0 S L4 (W) L3 (W) L5  
L18 0 S L4 (W) L3 (W) L6  
L19 399 S L4 AND L3 AND L5  
L20 195 S L4 AND L3 AND L6  
L21 3 S L2 (P) L19  
L22 6 S L2 AND L9  
L23 3 S L2 AND L19  
L24 7 S L2 AND L20  
L25 0 S L7 AND L2 AND L19  
L26 1 S L7 AND L2 AND L20  
L27 0 S L8 AND L2 AND L20  
L28 0 S L8 AND L2 AND L19  
L29 0 S L1 AND L19  
L30 1 S L1 AND L20  
L31 0 S L7 AND L1 AND L19  
L32 0 S L7 AND L1 AND L20  
L33 0 S L8 AND L1 AND L20  
L34 0 S L8 AND L1 AND L19